

## Claims

1. Device for optically scanning media, objects or surfaces, with a deflection mirror (1) for deflecting light beams (6), the deflection mirror being coupled to a drive unit, characterised in that the deflection mirror (1) can be rotated, the mirror normal (7) being tilted relative to the axis of rotation (5).
2. Device according to claim 1, characterised in that the deflection mirror (1) deflects the light beams to a receiving system which is equipped with a telescope (9) and a detector (10).
3. Device according to claim 1 or 2, characterised in that the light beams come from a laser light source.
4. Device according to claim 1 or 2, characterised in that the light beam is sunlight.
5. Device according to claim 1 or 2, characterised in that the light beam is emitted by objects or surfaces.
6. Device according to any one of claims 1 through 5, characterised in that the deflection mirror (1) is located in a bearing-mounted fitting (8).
7. Device according to any one of claims 1 through 6, characterised in that the angle between the axis of rotation (5) and the mirror normal (7) can be adjusted.
8. Device according to claim 7, characterised by a second drive unit for adjusting the angle between the axis of rotation (5) and the mirror normal (7).
9. Device according to any one of claims 1 through 8, characterised in that the deflection mirror (1) and/or the fitting (8) are shaped so that the axis of rotation (5) is identical to a principal axis of inertia of the deflection mirror (1) together with the fitting (8).

10. Device according to any one of claims 6 through 8, characterised in that the deflection mirror (1) is provided with at least one compensation mass element (2) so that the axis of rotation (5) is identical to the principal axis of inertia of the deflection mirror (1) together with the fitting (8).
11. Device according to claim 10, characterised in that the position of the compensation mass element (2) relative to the deflection mirror (1) can be adjusted.
12. Device according to claim 10 or 11, characterised in that the deflection mirror (1) can be tilted about an axis (3) perpendicular to the axis of rotation (5) and that the compensation mass element (2) can be tilted relative to the deflection mirror (1) around the same axis (3), preferably with a common drive unit.
13. Device according to any one of claims 10 through 12, characterised in that the compensation mass element (2) is designed as a ring which concentrically surrounds the deflection mirror (1).
14. Device according to any one of claims 1 through 13, characterised in that said device is designed as part of an optical remote sensing system for gases, in particular hydrocarbons.
15. Device according to claim 14, characterised in that said device is equipped with a navigation system and can be installed in an aircraft.
16. Method for optically scanning media, objects or surfaces with a deflection mirror for deflecting light beams, the deflection mirror being coupled to a drive unit, characterised in that the deflection mirror is rotated about an axis of rotation, the mirror normal being tilted relative to the axis of rotation and the deflection mirror being simultaneously guided over the medium, the object or the surface.
17. Method for optically scanning media or objects with a deflection mirror for deflecting light beams, the deflection mirror being coupled to a drive unit, characterised in that the deflection mirror rotates about an axis of rotation, the

mirror normal being tilted relative to the axis of rotation and the angle of tilt being simultaneously continuously changed.

18. Use of the method according to any one of claims 16 or 17 in a method for the optical remote sensing of gases, in particular hydrocarbons.
19. Use according to claim 16, characterised in that the method is used in a method for monitoring buried gas pipelines using an aircraft.